



# CMSI-8H8HS

8 x 8 HDMI Matrix



Operation Manual





## DISCLAIMERS

The information in this manual has been carefully checked and is believed to be accurate. Cypress Technology assumes no responsibility for any infringements of patents or other rights of third parties which may result from its use.

Cypress Technology assumes no responsibility for any inaccuracies that may be contained in this document. Cypress also makes no commitment to update or to keep current the information contained in this document.

Cypress Technology reserves the right to make improvements to this document and/or product at any time and without notice.

## COPYRIGHT NOTICE

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or any of its part translated into any language or computer file, in any form or by any means—electronic, mechanical, magnetic, optical, chemical, manual, or otherwise—with or without express written permission and consent from Cypress Technology.

© Copyright 2011 by Cypress Technology.

All Rights Reserved.

Version 1.0 September 2011

## TRADEMARK ACKNOWLEDGMENTS

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.



## SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

## REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
RDV1	11/11/2011	Preliminary Release
RDV2	13/12/2011	Power Supply Change
RDV3	15/02/2012	LAN's Function

## CONTENTS

<b>1. Introduction.....</b>	<b>1</b>
<b>2. Applications.....</b>	<b>1</b>
<b>3. Package Contents .....</b>	<b>1</b>
<b>4. System Requirements.....</b>	<b>1</b>
<b>5. Features .....</b>	<b>1</b>
<b>6. Operation Controls and Functions.....</b>	<b>2</b>
6.1 Front Panel .....	2
6.2 Rear Panel.....	3
6.3 Side Panel .....	4
6.4 Remote Control.....	4
6.5 RS-232 Protocols .....	5
6.6 RS-232 Commands.....	6
<b>7. Connection and Installation.....</b>	<b>7</b>
<b>8. Specifications .....</b>	<b>8</b>
<b>9. Acronyms.....</b>	<b>9</b>



## 1. INTRODUCTION

The 8 x 8 HDMI Matrix is a fabulous device for organizing and distributing your HDMI signals. With 8 HDMI input ports and 8 HDMI output ports this device allows a great amount of sources and display to be used motivationally. Moreover, with plenty of control systems such as IR, RS-232 and remote control allow user for all kinds of control habit and occasion to be used. Further, the EDID control settings unlocked the information display freely present.

## 2. APPLICATIONS

- Video/TV wall display
- Commercial advertising and displaying
- Lecture room display and control
- Hyper market demonstration and control

## 3. PACKAGE CONTENTS

- 8 x8 HDMI Matrix
- 24V/6.25A DC adaptor x 1
- Remote control x 1
- IR receiver cable x 1
- Operation manual

## 4. SYSTEM REQUIREMENTS

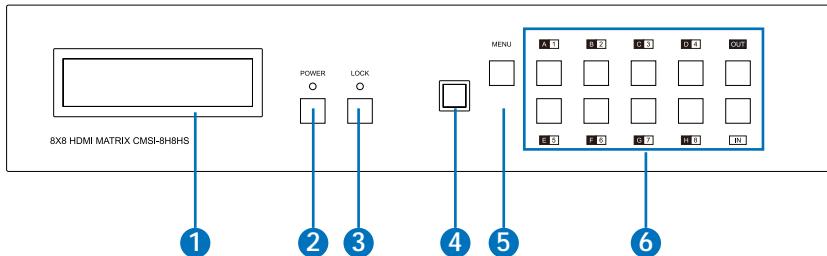
Input source equipments with HDMI connection cables and output display or audio amplifier equipments with HDMI connection cables.

## 5. FEATURES

- HDMI, HDCP1.1 and DVI compliant
- Supports HDMI v1.4 features:
  - ✓ 3D
- Supports audio sampling rate up to 192kHz
- Supports resolutions to VGA ~ WUXGA and 480i~1080p follow by output display's EDID
- Supports 3D signal display follow by display TV's EDID
- Supports HDMI input up to 15 meters with 8bits resolution or 10 meters with 12bits resolution and output up to 15 meters with 8/12bits
- Supports IR extension
- Supports RS-232, remote control and on panel control
- 2U size design

## 6. OPERATION CONTROLS AND FUNCTIONS

### 6.1 Front Panel



#### ① LCM

This monitor displays your setting information with each input and output selection.

#### ② POWER button & LED

Press this button to turn on the device and the green LED will illuminate when the power is on. When the LED illuminate in red it is in standby mode

#### ③ LOCK button & LED

Press this button to lock all the buttons on the panel. To unlock, just press it again.

#### ④ IR

This IR window accepts the remote control signal of this device only.

#### ⑤ MENU

Press this button once to select EDID setting from STD (internal) 1 or TV (external) 2 then press it again to confirm the selection. Press this button every to confirm the selection.

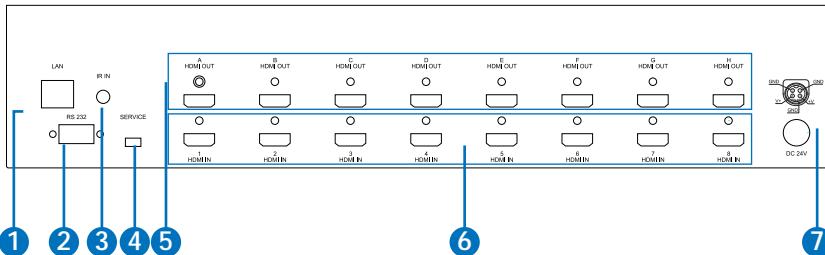
EDID TV: The device will read the EDID of HDMI output A and record it.  
 EDID STD: The device's built-in EDID is 1080p@60/12bits for video and LPCM 2CH for Audio.

#### ⑥ 1 ~ 8 /A ~ H & Out/In buttons

Press Out/In button first to select the output/input then press the number button to make the selection accordingly. For

example, output A ~ D wish to select input 1 and E ~ H wish to select input 2. Press Out → A → B → C → D → In → 1 → Menu, and then press Out → E → F → G → H → In → 2 → Menu. If the menu button is not press the selection will not be changed.

## 6.2 Rear Panel



### ① LAN

Reserved.

### ② RS-232

This slot is to connect with D-Sub 9pin cable from the PC/NB device for RS-232 control.

### ③ IR-IN

This slot is to connect with the IR extender included in the package for IR signal receiving from the remote control of this device.

### ④ SERVICE

This slot is to connect with USB cable for manufacturers' firmware update only.

### ⑤ HDMI OUT A~H

These slots are to connect with display or monitor with HDMI cables for output image display.

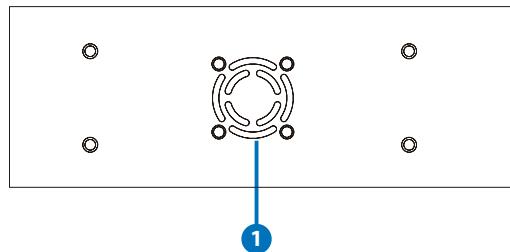
### ⑥ HDMI IN 1~8

These slots are to connect with input source equipment such as Blu-ray player or Set-Up-Box with HDMI cable or DVI to HDMI converter cable for input signal sending.

## 7 DC24V

This slot is to plug the power cord with adaptor included in the package and then connect them with AC wall outlet for power supply.

### 6.3 Side Panel



## 1 VENTILATOR

These are fan ventilator area, DO NOT block these area or cover it with any object.

### 6.4 Remote Control

#### 1 Power

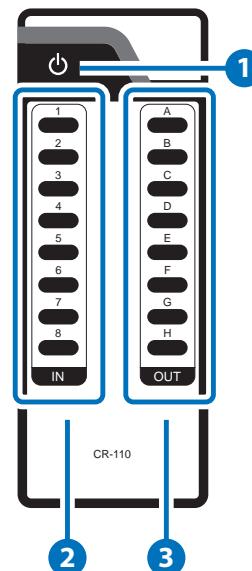
Press this button to switch on the device or set it to standby mode.

#### 2 IN

Input ports selection 1~8.

#### 3 OUT

Output ports selection A~H.



## 6.5 RS-232 Protocols

CMSI-8H8HS		Remote Control Console	
PIN	Assignment	PIN	Assignment
1	NC	1	NC
2	Tx	2	Rx
3	Rx	3	Tx
4	NC	4	NC
5	GND	5	GND
6	NC	6	NC
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC

Baud Rate: 19200bps

Data bit: 8 bits

Parity: None

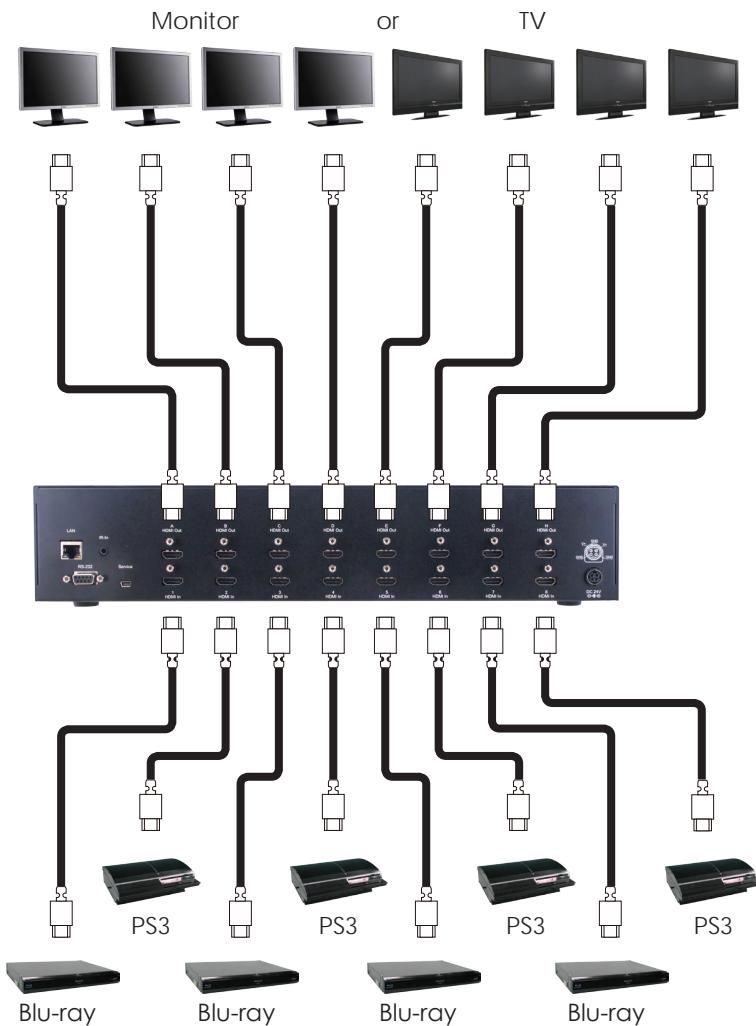
Flow Control: None

Stop Bit: 1

## 6.6 RS-232 Commands

Command	Description
A1~A8	Switch output A to 1~8
B1~B8	Switch output B to 1~8
C1~C8	Switch output C to 1~8
D1~D8	SWITCH OUTPUT D TO 1~8
E1~E8	SWITCH OUTPUT E TO 1~8
F1~F8	SWITCH OUTPUT F TO 1~8
G1~G8	SWITCH OUTPUT G TO 1~8
H1~H8	SWITCH OUTPUT H TO 1~8
ABCD...1~ABCD...8	SWITCH OUTPUT ABCD... TO 1~8 at the same time
P0	POWER OFF
P1	POWER ON
I1~I8	SWITCH ALL THE OUTPUT TO 1~8
ST	Display the current matrix status and F/W version
RS	System Reset to A1, B2, C3, D4, E5, F6, G7, H8
?	Display all available commands

## 7. CONNECTION AND INSTALLATION



## 8. SPECIFICATIONS

<b>Maximum TMDS Bandwidth</b>	6.75 Gbps
<b>Input Ports</b>	8 x HDMI, 1 x IR, 1 x RS-232, 1 x mini USB B type (for firmware update only), 1 x RJ-45 (LAN)
<b>Output Ports</b>	8 x HDMI
<b>ESD Protection</b>	Human body model: ± 8kV (Air-gap discharge) ± 4kV (Contact discharge)
<b>Power Supply</b>	24V//6.25A DC (US/EU standards, CE/ FCC/UL certified)
<b>Dimensions</b>	438mm(W) x 255mm(D) x 93mm(H)
<b>Weight(g)</b>	4278g
<b>Chassis Material</b>	Metal
<b>Silkscreen Color</b>	Black
<b>Operating Temperature</b>	0°C ~ 40°C / 32°F ~ 104°F
<b>Storage Temperature</b>	-20°C ~ 60°C / -4°F ~ 140°F
<b>Relative Humidity</b>	20 ~ 90% RH (non-condensing)
<b>Power Consumption</b>	40W



## 9. ACRONYMS

ACRONYM	COMPLETE TERM
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
LCM	Liquid Crystal Monitor
USB	Universal Serial Bus
VGA	Video Graphics Array
WUXGA	Wide Ultra Extended Graphics Array





CYPRESS TECHNOLOGY CO., LTD  
Home page: <http://www.cypress.com.tw>